

Work Order ID 66210

February 7, 2011 1:24:57 PM



Page 1

Item ID: D4198-1

Accept



Setup Start



Revision ID: PRELIM

Stop



Item Name: Tube, LH

Start Date: 2/07/11 Start Qty: 2.00



Cust Item ID:

Required Date: 2/18/11 Req'd Qty: 2.00

Customer:

Reference:

Approvals:

Process Plan: CL

Date: 11/02/07

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4198

PA1 PA2

100

0.00



DOOSAN LATHE

Doosan

Memo

0.00

Doosan Lathe

1- Turn as per Folio FA992

Folio Rev: 1/6

Dwg Rev: 1/PA2

3-Deburr per dwg

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control



MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

PRELIMINARY ISSUE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 66210

February 7, 2011 1:24:57 PM



Page 2

Item ID:	D4198-1	Accept		Setup	Start	
Revision ID:	PRELIM				Stop	
Item Name:	Tube, LH					
Start Date:	2/07/11	Start Qty: 2.00		Cust Item ID:		
Required Date:	2/18/11	Req'd Qty: 2.00		Customer:		
Reference:						

Approvals:	Process Plan: _____	Date: _____	Tooling: _____	Date: _____	Run	Start	
	QC: _____	Date: _____	SPC (Y/N): _____	Date: _____		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 Lathe Conv Conventional Lathe	Memo TURN ID AS PER DWG	0.00 0.00	<i>ml</i>	<i>11.4.4</i>		<i>2</i>			
130 QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00	<i>ml</i>	<i>11.4.4</i>		<i>2</i>			
140 QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00	<i>B.A</i>	<i>11/04/04</i>		<i>2</i>	<i>0</i>		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 66210

February 7, 2011 1:24:57 PM



Page 3

Item ID:	D4198-1	Accept		Setup	Start	
Revision ID:	PRELIM				Stop	
Item Name:	Tube, LH					
Start Date:	2/07/11	Start Qty: 2.00		Cust Item ID:		
Required Date:	2/18/11	Req'd Qty: 2.00		Customer:		
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 	Identify as per dwg & Stock Location: <u>GA</u>	0.00							
Packaging	Memo <u>Br 66201</u>	0.00	<u>SB</u>	<u>1160120</u>		<u>(2)</u>			
Packaging									
190 	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

11-06-9
(2)

POSITIVE RECALL
EFFECTIVE 11-02-08 AUTH 11
RELEASED _____ DATE _____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 1

February 7, 2011 1:24:57 PM

Work Order ID: 66210



Parent Item: D4198-1



Parent Item Name: Tube, LH

Start Date: 2/07/11

Required Date: 2/18/11

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A NEW ISSUE 10-10-30 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR1.125W.065 		Purchased	No			100	f	20.0000	1.3	2.736842			
304 RD Tube 1.125 x .065w													



Ref 11-3-31

Location

Loc Qty

Loc Code

MAT018

20

108225 ✓

20

2.5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: <i>6210</i>
Description: <i>Tube, Lh</i>		Part Number: <i>4198-1</i>
Inspection Dwg:	Rev:	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

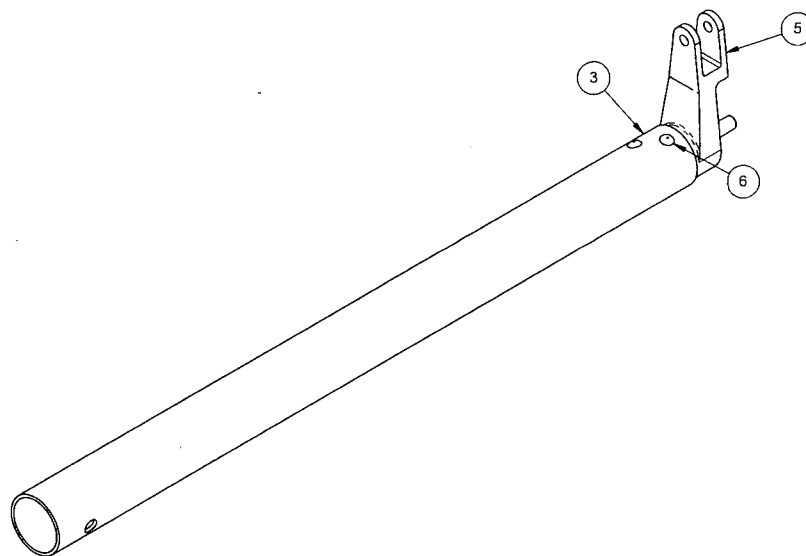
☒ First Article
 ☒ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<i>1.005</i>	<i>±.002 -0.0</i>	<i>1.006</i>	<i>/</i>		<i>2Q. 02</i>	
<i>2.00</i>	<i>±/- .030</i>	<i>2.000</i>	<i>/</i>		<i>2Q. 02</i>	
<i>13°</i>	<i>±/- 1/2°</i>	<i>13°</i>	<i>/</i>			
<i>.265</i>	<i>±.006 -0.001</i>	<i>.265</i>	<i>/</i>			
<i>1.125</i>	<i>±/- .010</i>	<i>1.122</i>	<i>/</i>			
<i>.065</i>	<i>±/- .010</i>	<i>.072</i>	<i>/</i>			
<i>.95</i>	<i>±/- .030</i>	<i>.757</i>	<i>/</i>			
<i>15.00</i>	<i>±/- .030</i>	<i>15.00</i>	<i>/</i>		<i>2Q. 14</i>	
<i>.48</i>	<i>±/- .030</i>	<i>.473</i>	<i>/</i>		<i>2Q. 02</i>	
<i>.30</i>	<i>±/- .030</i>	<i>.293</i>	<i>/</i>		<i>2Q. 02</i>	
<i>.125</i>	<i>±.005 -0.001</i>	<i>.125</i>	<i>/</i>			
<i>15°</i>	<i>±/- 1/2°</i>	<i>15°</i>	<i>/</i>			
<i>15°</i>	<i>±/- 1/2°</i>	<i>15°</i>	<i>/</i>			

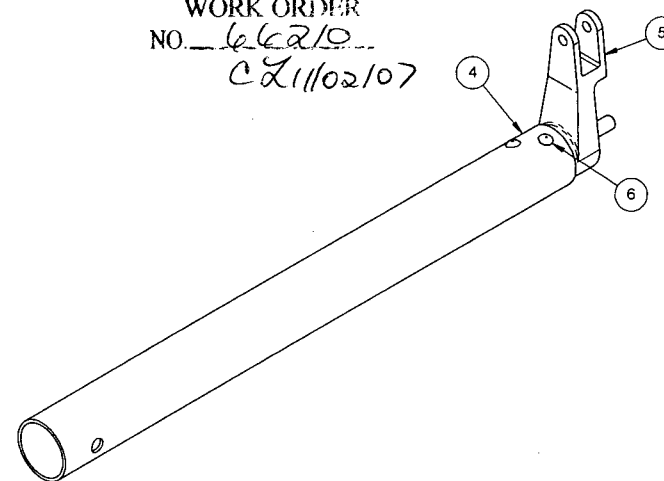
Measured by: <i>[Signature]</i>	Audited by: <i>B.A</i>	Prototype Approval:
Date: <i>11-4-4</i>	Date: <i>11/04/04</i>	Date:

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

ITEM NO.	QTY. -041	QTY. -043	PART NUMBER	DESCRIPTION
1	X		D4198-041	LH THROTTLE BELLCRANK ASSEMBLY
2		X	D4198-043	RH THROTTLE BELLCRANK ASSEMBLY
3	1		D4198-1	TUBE, LH
4		1	D4198-3	TUBE, RH
5	1	1	D4198-5	BELLCRANK
6	2	2	MS20470AD4-20	RIVET



D4198-041 LH THROTTLE BELLCRANK ASSEMBLY



D4198-043 RH THROTTLE BELLCRANK ASSEMBLY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 66210
CZ11/02/07

PRELIMINARY ISSUE

[Signature] 10.11.03

NOTES:

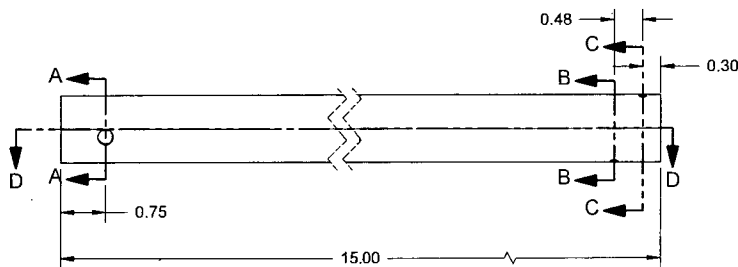
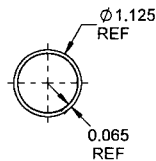
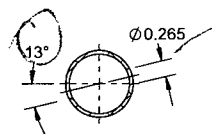
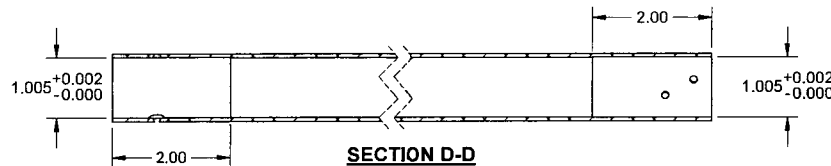
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: (-041) 1.28 lbs
(-043) 1.10 lbs

PA2	NEW ISSUE	<i>[Signature]</i>	10.11.03
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>		
DRAWN	<i>[Signature]</i>		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.11.03		

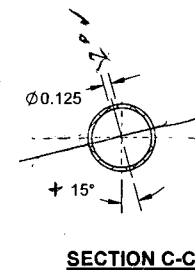
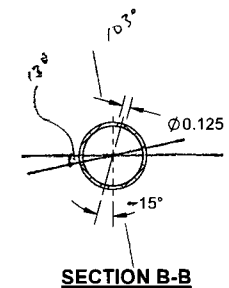
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D4198** REV. PA2
SHEET 1 OF 4
TITLE **THROTTLE BELLCRANK** SCALE NTS

COPYRIGHT © 2010 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE LTD.



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 66210





D4198-1 TUBE, LH

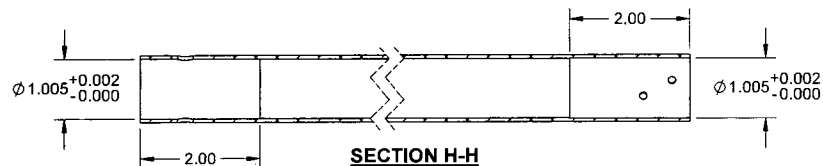
PRELIMINARY ISSUE

10.11.03

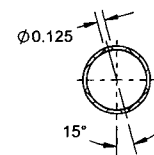
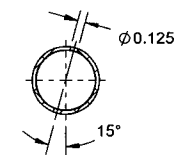
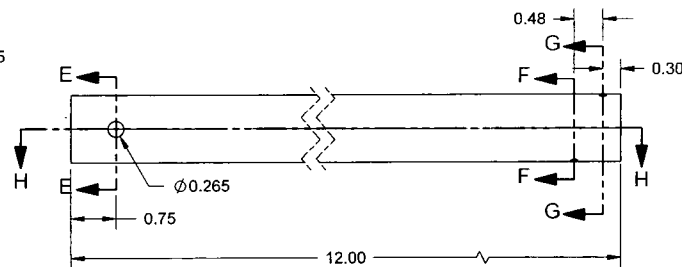
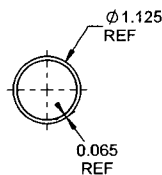
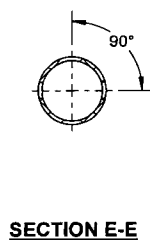
NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING, OD Ø1.125 X 0.065 WALL THICKNESS
PER ASTM A213 OR ASME SA213 OR ASTM A269
REF DART SPEC M304TR1.158W.049
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.91 lbs

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PA2
MFG. APPR.		D4198	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		THROTTLE BELLCRANK	NTS
DATE	10.11.03	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON THAT IT IS NOT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 66210



SECTION F-F



SECTION G-G

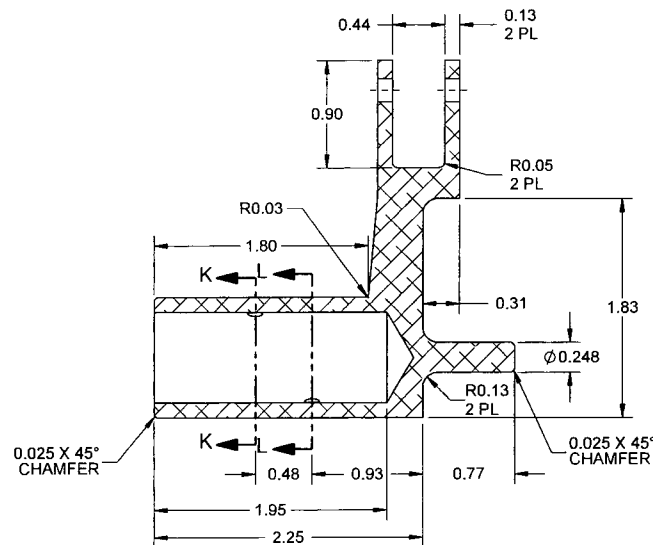
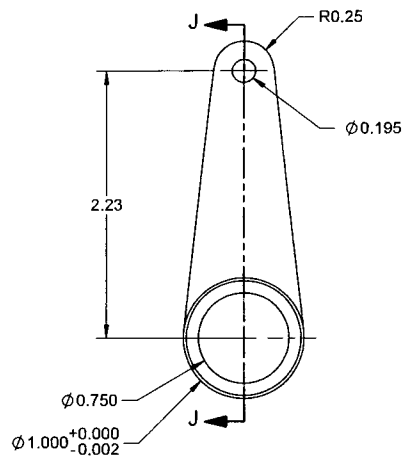
D4198-3 TUBE, RH

PRELIMINARY ISSUE

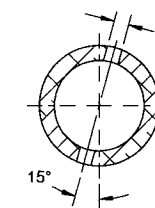
10.11.03

- NOTES:**
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING, OD $\phi 1.125$ X 0.065 WALL THICKNESS
PER ASTM A213 OR ASME SA213 OR ASTM A269
REF DART SPEC M304TR1.158W.049
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 0.71 lbs

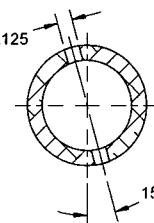
DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PA2
MFG. APPR.		D4198	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		THROTTLE BELLCRANK	NTS
DATE	10.11.03	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



SECTION J-J

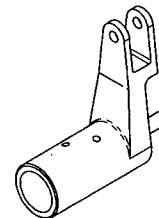


SECTION K-K



SECTION L-L

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 66210



D4198-5 BELLCRANK

PRELIMINARY ISSUE

10.11.03

NOTES:

- 1) MATERIAL: AISI 303 STAINLESS STEEL ROUND BAR
PER ASTM A276
REF DART SPEC M304B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.020 TO 0.030 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.42 lbs

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PA2
MFG. APPR.		D4198	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		THROTTLE BELLCRANK	NTS
DATE	10.11.03	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	